Clean Version of Amended Claims:

9. A process for controlling the pressure within a chamber, comprising the steps of:

pressure control steps, comprising:

first generating a pressure sensor signal responsive to the pressure in said chamber; and

second generating a step command signal responsive to said pressure sensor signal and a tool logic signal, said step command signal generating comprising applying a pressure control algorithm to said pressure sensor and tool logic signals;

position control steps, comprising:

third generating a direction/speed command signal responsive to said step command signal and valve position feedback signal, said direction/speed command signal generating comprising applying a position control algorithm to said step command and valve position feedback signals;

actuating said valve responsive to said direction/speed command signal, said actuating comprising moving said valve by operation of a motor drive, said actuating resulting in said valve residing in a position, said valve in fluid communication with said chamber; and

fourth generating another said valve position feedback signal responsive to said position of said valve, said valve position feedback signal comprising data representing the position of said motor drive operatively connected to said valve; and

repeating position control steps and said pressure control steps as appropriate until said pressure is controlled adequately.

12. The process of Claim 10, wherein said drive assembly conducting said actuating/feedback step further comprises a motor drive attached to a reduction gear means.

14. A process for controlling the fluid flow through a conduit whereby the pressure in a chamber in fluid communication with said conduit is controlled, comprising the steps of:

pressure control steps, comprising:

generating a pressure sensor signal responsive to the pressure in said chamber; and

generating a step command signal responsive to said pressure sensor signal and a tool logic signal, said step command signal generating comprising applying a flow control algorithm to said pressure sensor and tool logic signals;

position control steps, comprising:

generating a direction/speed command signal responsive to said step command signal and valve position feedback signal, said direction/speed command signal generating comprising applying a position control algorithm to said step command and valve position feedback signals;

actuating said valve responsive to said direction/speed command signal, said actuating comprising moving said valve by operation of a motor drive, said actuating resulting in said valve residing in a valve position, said valve in fluid communication with said conduit; and

generating another said valve position feedback signal responsive to said position of said valve, said valve position feedback signal comprising data representing the position of said motor drive operatively connected to said valve; and

repeating said position control steps and said pressure control steps, as appropriate until said conduit fluid flow and said chamber pressure are controlled adequately.

17. The process of Claim 15, wherein said drive assembly conducting said actuating/feedback step further comprises a motor drive attached to a reduction gear means.

19. A process for controlling the pressure within a chamber, comprising the steps of:

first generating a pressure sensor signal responsive to the pressure in said chamber;

second generating a step command signal responsive to said pressure sensor signal and a tool logic signal, said step command signal generating comprising applying a pressure control algorithm to said pressure sensor and tool logic signals;

third generating a direction/speed command signal responsive to said step command signal and valve position feedback signal, said direction/speed command signal generating comprising applying a position control algorithm to said step command and valve position feedback signals;

actuating said valve responsive to said direction/speed command signal, said actuating comprising moving said valve by operation of a motor drive assembly, said actuating resulting in said valve residing in a position, said valve in fluid communication with said chamber;

fourth generating another said valve position feedback signal responsive to said position of said valve, said valve position feedback signal comprising data representing the position of said motor drive assembly operatively connected to said valve;

first repeating said third generating, said actuating and said fourth generating steps until said motor drive assembly is positioned adequately; and

second repeating said first and second generating and said first repeating steps until said pressure is controlled adequately.

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23. The process of Claim 20, wherein said motor drive assembly position comprises the position of said valve stem.

24. The process of Claim 19, wherein:

said valve further comprises a valve stem; and

said motor drive assembly comprises a motor drive operatively connected to said valve stem.

25. The process of Claim 24, wherein said motor drive assembly position comprises the position of said valve stem.

26. A process for controlling the fluid flow through a conduit whereby the pressure in a chamber in fluid communication with said conduit is controlled, comprising the steps of:

generating a pressure sensor signal responsive to the pressure in said chamber;

generating a step command signal responsive to said pressure sensor signal and a tool logic signal, said step command signal generating comprising applying a pressure control algorithm to said flow sensor and tool logic signals;

generating a direction/speed command signal responsive to said step command signal and valve position feedback signal, said direction/speed command signal generating comprising applying a position control algorithm to said step command and valve position feedback signals;

actuating said valve responsive to said direction/speed command signal, said actuating comprising moving said valve by operation of said motor drive assembly, said actuating resulting in said valve residing in a valve position, said valve in fluid communication with said conduit;

generating another said valve position feedback signal responsive to said position of said valve, said valve position feedback signal comprising data representing the position of said motor drive assembly operatively connected to said valve;

first repeating said direction/speed command signal generating step, said actuating step and said valve position feedback signal generating step until said motor drive assembly is positioned adequately; and

second repeating said first and second generating and said first repeating steps until said conduit fluid flow and said chamber pressure are controlled adequately.

27. The process of Claim 26, wherein:

said valve further comprises a valve stem; and

said motor drive assembly comprises a motor drive and reduction gear means, said reduction gear means operatively connected between said motor drive and said valve stem.

28. The process of Claim 27, wherein said motor drive assembly position comprises the rotational position of said reduction gear means.

29. The process of Claim 26, wherein:

said valve further comprises a valve stem; and

said motor drive assembly comprises said valve stem, a motor drive and reduction gear means, said reduction gear means operatively connected between said motor drive and said valve stem.

30. The process of Claim 29, wherein said motor drive assembly position comprises the position of said valve stem.

31. The process of Claim 26, wherein:

said valve further comprises a valve stem; and

said motor drive assembly comprises a motor drive operatively connected to said valve stem.

32. The process of Claim 31, wherein said motor drive assembly position comprises the position of said valve stem.

9. (Thrice Amended) A process for controlling the pressure within a chamber, comprising the steps of:

[initial generating an originating valve position feedback signal, said originating valve position feedback signal comprising data representing the position of a motor drive operatively connected to a valve when said valve resides in an originating position, said originating position defined as the position of said valve prior to commencement of said chamber pressure control;]

pressure control steps, comprising:

first generating a pressure sensor signal responsive to the pressure in said chamber; and

second generating a step command signal responsive to said pressure sensor signal and a tool logic signal, said step command signal generating comprising applying a pressure control algorithm to said pressure sensor and tool logic signals;

position control steps, comprising:

third generating a direction/speed command signal responsive to said step command signal and [said]valve position feedback signal, said direction/speed command signal generating comprising applying a position control algorithm to said step command and valve position feedback signals;

actuating said valve responsive to said direction/speed command signal, said actuating comprising moving said valve by operation of [said]a motor drive, said actuating resulting in said valve residing in a position, said valve in fluid communication with said chamber; and

fourth generating another said valve position feedback signal responsive to said position of said valve, said valve position feedback signal comprising data representing the position of said motor drive operatively connected to said valve; and

repeating position control steps and said pressure control steps as appropriate[said third generating, said actuating and said fourth generating steps] until said pressure is controlled adequately.

12. (Amended) The process of Claim 1[1]0, wherein said drive assembly conducting said actuating/feedback step further comprises a motor drive attached to a reduction gear means.

14. (Thrice Amended) A process for controlling the fluid flow through a conduit whereby the pressure in a chamber in fluid communication with said conduit is controlled, comprising the steps of:

[initial generating an originating valve position feedback signal, said originating valve position feedback signal comprising data representing the position of a motor drive operatively connected to a valve when said valve resides in an originating position, said originating position defined as the position of said valve prior to commencement of said fluid flow control;]

pressure control steps, comprising:

generating a pressure sensor signal responsive to the pressure in said chamber; and

generating a step command signal responsive to said pressure sensor signal and a tool logic signal, said step command signal generating comprising applying a flow control algorithm to said pressure sensor and tool logic signals;

position control steps, comprising:

generating a direction/speed command signal responsive to said step command signal and [said]valve position feedback signal, said direction/speed command signal generating comprising applying a position control algorithm to said step command and valve position feedback signals;

actuating said valve responsive to said direction/speed command signal, said actuating comprising moving said valve by operation of [said]a motor drive, said actuating resulting in said valve residing in a valve position, said valve in fluid communication with said conduit; and

generating another said valve position feedback signal responsive to said position of said valve, said valve position feedback signal comprising data representing the position of said motor drive operatively connected to said valve; and

repeating said position control steps and said pressure control steps, as appropriate[direction/speed command signal generating step, said actuating step and said valve position feedback signal generating step] until said conduit fluid flow and said chamber pressure are controlled adequately.

17. (Amended) The process of Claim 1[6]5, wherein said drive assembly conducting said actuating/feedback step further comprises a motor drive attached to a reduction gear means.

19. (Amended) A process for controlling the pressure within a chamber, comprising the steps of:

[initial generating an originating valve position feedback signal, said originating valve position feedback signal comprising data representing the position of a motor drive assembly operatively connected to a valve when said valve resides in an originating position, said originating position defined as the position of said valve prior to commencement of said chamber pressure control;]

first generating a pressure sensor signal responsive to the pressure in said chamber;

second generating a step command signal responsive to said pressure sensor signal and a tool logic signal, said step command signal generating comprising applying a pressure control algorithm to said pressure sensor and tool logic signals;

third generating a direction/speed command signal responsive to said step command signal and [said]valve position feedback signal, said direction/speed command signal generating comprising applying a position control algorithm to said step command and valve position feedback signals;

actuating said valve responsive to said direction/speed command signal, said actuating comprising moving said valve by operation of [said]a motor drive assembly, said actuating

resulting in said valve residing in a position, said valve in fluid communication with said chamber;

fourth generating another said valve position feedback signal responsive to said position of said valve, said valve position feedback signal comprising data representing the position of said motor drive assembly operatively connected to said valve; [and]

first repeating said third generating, said actuating and said fourth generating steps until said motor drive assembly is positioned[pressure is controlled] adequately; and

second repeating said first and second generating and said first repeating steps until said pressure is controlled adequately.

2[2]3. The process of Claim 2[1]0, wherein said motor drive assembly position comprises the position of said valve stem.

2[3]4. The process of Claim 19, wherein:

said valve further comprises a valve stem; and

said motor drive assembly comprises a motor drive operatively connected to said valve stem.

2[4]5. The process of Claim 2[3]4, [hwerein]wherein said motor drive assembly position comprises the position of said valve stem.

2[5]6. A process for controlling the fluid flow through a conduit whereby the pressure in a chamber in fluid communication with said conduit is controlled, comprising the steps of:

[initial generating an originating valve position feedback signal, said originating valve position feedback signal comprising data representing the position of a motor drive assembly operatively connected to a valve when said valve resides in an originating position, said originating position defined as the position of said valve prior to commencement of said fluid flow control;]

generating a pressure sensor signal responsive to the pressure in said chamber;

generating a step command signal responsive to said pressure sensor signal and a tool logic signal, said step command signal generating comprising applying a pressure control algorithm to said flow sensor and tool logic signals;

generating a direction/speed command signal responsive to said step command signal and [said]valve position feedback signal, said direction/speed command signal generating comprising applying a position control algorithm to said step command and valve position feedback signals;

actuating said valve responsive to said direction/speed command signal, said actuating comprising moving said valve by operation of said motor drive assembly, said actuating resulting in said valve residing in a valve position, said valve in fluid communication with said conduit;

generating another said valve position feedback signal responsive to said position of said valve, said valve position feedback signal comprising data representing the position of said motor drive assembly operatively connected to said valve; [and]

first repeating said direction/speed command signal generating step, said actuating step and said valve position feedback signal generating step until said motor drive assembly[conduit fluid flow and said chamber pressure are controlled]is positioned adequately; and

second repeating said first and second generating and said first repeating steps until said conduit fluid flow and said chamber pressure are controlled adequately.

2[6]7. The process of Claim 2[5]6, wherein:

said valve further comprises a valve stem; and

said motor drive assembly comprises a motor drive and reduction gear means, said reduction gear means operatively connected between said motor drive and said valve stem.

2[7]8. The process of Claim 2[6]7, wherein said motor drive assembly position comprises the rotational position of said reduction gear means.

2[8]9. The process of Claim 2[5]6, wherein:

said valve further comprises a valve stem; and

said motor drive assembly comprises said valve stem, a motor drive and reduction gear means, said reduction gear means operatively connected between said motor drive and said valve stem.

[29]30. The process of Claim 2[8]9, wherein said motor drive assembly position comprises the position of said valve stem.

3[0]1. The process of Claim 2[5]6, wherein:

said valve further comprises a valve stem; and

said motor drive assembly comprises a motor drive operatively connected to said valve stem.

3[1]2. The process of Claim 3[0]1, [hwerein]wherein said motor drive assembly position comprises the position of said valve stem.